



# EXPLORING PREFERRED STYLES OF LEARNING AND TEACHING AMONG COLLEGE STUDENTS IN VIEW OF NEW EDUCATION POLICY 2020

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## ABSTRACT

With the advent of New Education Policy (NEP) 2020, India has a vision to transform its education system by shifting its attention to learner-centred approach for holistic understanding of subjects using different styles of teaching and learning like activity-based learning and teaching in one's own mother tongue. Students use different modalities to perceive, understand and learn different subjects taught in class. Based on the modalities used (visual, auditory or tactile), students may develop visual, auditory or kinesthetic styles of learning. This study aimed to identify learning styles and preferred teaching styles of current college students between the ages 18-25. In addition, the study seeks to understand the preferred teaching style opted by students. A comparison in terms gender, and educational level were made. Through convenient sampling technique willing participants were administered Barsch Learning Styles Inventory (Barsch, J. 1980) and were asked to rank various teaching styles like visual, auditory and kinesthetic in the order of their preference. Appropriate statistics were used for data analysis. The results of the study showed that college student's preferences for learning styles were not influenced by gender or educational level. The order of preference of students in terms of preferred teaching style was found to be visual followed by auditory followed by tactile.

**KEYWORDS:** New Education Policy (NEP) 2020, Learning Styles, Teaching Styles.

## INTRODUCTION

The introduction of New Education Policy (NEP) 2020 is a step towards stepping up the Indian education system. It includes wide set of changes from lower levels to higher levels of education. The most notable ones include its focus on digital learning and technology integration, establishing more diverse and inclusive learning environments, focusing on skill development and creating flexible learning models. (Comprehending the Role of the NEP 2020 in Skill Development, 2023)

Education involves cultivating a reciprocal dynamic between educators and students, fostering not only the teacher-student connection but also promoting collaborative interactions among students. "The great aim of education is not knowledge but action" says Herbert Spencer. That is, the aim of educating a person is not just to acquire knowledge but also to learn to use the acquired knowledge in real life setting. The goal of education is not only to impart knowledge; it also includes teaching students the critical ability to use that knowledge in practical ways. Pupils may demonstrate a variety of learning styles, emphasizing the need for a range of teaching strategies to meet individual preferences and enhance the educational process. (Woodcock, 2020)

The way in which students acquire, sort through, analyse, arrange, formulate conclusions about, and store information for later use is commonly referred to as their learning styles. As per Coffield over seventy styles of learning exist (Mcdaniel,

2010). Knowingly or unknowingly, we might have developed our style of learning which is referred to as the 'preferred style of learning'. This style influences the person's absorbing and comprehending process and how to use the skills in a real-world situation.

Many have formulated theories and models on learning styles. One such learning style is the VAK model developed Walter Burke Barbe in 1979 wherein the acronym stands for Visual, Auditory and Kinesthetic. This was later developed by Neil D. Fleming as VARK in the year 1987 which stands for Visual, auditory, reading/writing and kinesthetic. One of the advantages of this theory is that it focuses on sensory modalities that a people use while they are learning or while they are picking up information from the environment.

A number of significant shifts and changes in teaching styles have occurred over the past 20 years, driven by a variety of factors such as changes in societal expectations, evolving educational theories, and technological advancements. The shift from open air classrooms to enclosed classrooms where teachers wrote on blackboards faces significant criticism. (How Classrooms Are Becoming "Smart", 2012). Today we have 'Smart Classes', a combination of visual and auditory teaching styles that has brought a paradigm shift in the teaching methodology of the country. It has been shown that a teacher's style can influence both the learning environment and the perceptions that students have of them. (Keerthigha & Singh, 2023). Although a lot

of studies have been conducted on teaching styles, there is a dearth in studies when it comes to “preferred teaching styles” of students.

Conducting a study on ‘preferred learning and teaching styles’ of students is pivotal for a plethora of reasons. Firstly, it will help teachers recognize and understand the preferred learning styles of their students in order to customize instruction to meet each student’s needs. Secondly, this information not only encourages teachers to diversify their teaching methods in order to reach a wider range of students, but it also helps overcome the common tendency among educators to adopt a uniform teaching approach. Thirdly, teachers can create a more inclusive and productive learning environment by matching their teaching methods with the preferences of different types of learners. As per a study conducted by Akbarzadeh & Fatemipour, 2014, a match between the learning styles of the students and appropriate teaching methods leads to increased motivation, output, and success. Therefore, designing the best possible learning environment is essential to improving learning outcomes by letting students engage with the material in a way that best suits their preferred learning styles. Moreover, the results can give light to NEP 2020 in aligning a pedagogy that goes hand in hand with the preferred teaching styles of students. Thus, the researchers aimed to understand the learning styles and preferred teaching style among college students who are currently undergoing their UG and PG programs.

## REVIEW OF LITERATURE

Prior studies on learning styles and teaching styles have been curated to underline relevant information related to current research.

A study titled “Learning Styles and Teaching Styles Determine Students’ Academic Performances”, aimed to identify the learning styles of students and explore the relationship between students’ learning styles and teachers’ teaching methods. The study involved five lecturers and 251 students from University of Malasia. Student data was gathered using Leonard, Enid’s VAK Learning Style Survey, while the Grasha and Reichmann’s Teaching Style Survey was used to determine the lecturers’ teaching styles. The results indicated that most students favoured a visual learning style. It was also found that the teaching styles of the lecturers significantly influenced the students’ academic performance (Dewi et al., 2019).

A study was conducted on the topic “Examining the Match or Mismatch between Teaching Style preferences and Upper Intermediate EFL Learners’ Learning Style Preferences” among 183 students. In this study, The Learning Style Preference and the Teaching Style Preference Questionnaires were administered along with oral interview and classroom observation. Results showed that the student’s preferred learning style was Tactile and also there was a mismatch in the teaching style and learning style (Akbarzadeh & Fatemipour, 2014).

In 2014, a study titled “Alignment of Teaching Style to Learning Preferences: Impact on Student Learning” was conducted in a sample consisting of 250 Undergraduate students and 250

Postgraduate students from Mangalore. The VARK questionnaire (Fleming, 2001) was used for the assessment of preferences in learning style and another structured questionnaire was administered for the assessment of teaching style. The findings indicate that teaching style of teachers do not match with the learning preferences of the students (Ganesh, 2014).

A study titled “Gender differences in learning style preferences among undergraduate physiology students” by Wehrwein, E. A., Lujan, H. L., & DiCarlo, S. E, among 48 undergraduate students found that there exists a significant difference in the learning styles of males and females. Students were administered with the VARK questionnaire to assess the learning style preferences (Wehrwein et al., 2007).

In the year 2011, a study was conducted on the topic “Review of Gender Differences In Learning Styles: Suggestions For STEM Education” by Kulturel-Konak, S., D’Allegro, M. L., & Dickinson, S. The sample consisted of 313 students within the age range of 18 -25. The information was collected through an online Learning Styles Survey and the findings indicated that the learning style preferences of males and females were different (Kulturel-Konak et al., 2011).

Another study titled “How different are students and their learning styles?” conducted in a sample of 200 students (98 males and 102 females) and were administered with the VARK Questionnaire. The findings indicated that there were no gender differences in the learning style preferences and also the most preferred one was the kinesthetic method of learning (Shah et al., 2013).

In 2018, a study named “Learning Style Preferences among College Students”, aimed to find out what factors besides individual preferences affect undergraduate students’ learning style preferences, and whether learning style is related to gender, age, college affiliation and/or type of activities. For this, an online VARK (Visual, Aural, Read/Write and Kinesthetic) for younger people Questionnaire administered among 185 University students. The results indicated that participants generally liked multi-modular learning style with kinesthetic and visual learning styles being the most popular while Reading/Writing was the least popular. Moreover, there were statistically significant differences between students learning styles based on age and gender, but the difference was moderate (Alkooheji & Al-Hattami, 2018).

## METHOD

### Problem Statement

The study tries to identify the preferred learning style and teaching style among students of different levels and find out whether there is any gender difference or difference based on level of education pertaining to preference in learning style among college students.

### Objectives

- To identify whether there is any preferred learning style among students
- To identify whether there is any gender difference

pertaining to preferences in learning style

- To identify whether there is any difference based on level of education pertaining to preference in learning style among college students
- To identify whether there is any preferred teaching style among students

### Hypotheses

H<sub>01</sub>: There will be no significant gender difference pertaining to preference in learning style among college students

H<sub>02</sub>: There will be no significant difference based on level of education pertaining to preference in learning style among college students

### Research Design

Descriptive research design was used in this study

### Variables

The variables studied in this study include preferred learning styles and teaching styles of student

### Sample

The current study was conducted in a sample of 32 college students between the ages 18 to 25 currently pursuing their Undergraduate or Post Graduate programme in Mahatma Gandhi University (MGU), Kerala. The sample was selected from various streams such as science, commerce and arts. The sample of 32 student comprises of 18 females and 14 males.

### Inclusion Criteria

College students between the ages 18-25 currently undergoing their Undergraduate or Post Graduate programme in Mahatma Gandhi University (MGU), Kerala.

### Exclusion Criteria

International students and research scholars were excluded  
Individuals with any kind of disabilities were excluded

### Tools

Barsch Learning Styles Inventory (Barsch R.J., 1996) was used to measure preferred learning styles (visual, auditory and tactile/kinesthetic) among students. Barsch Learning Styles Inventory is a 24-item questionnaire with a reliability coefficient 0.81. It has established validity.

The items are scored as follows –Often = 5 points, sometimes = 3 and Seldom = 1

### Data collection procedure

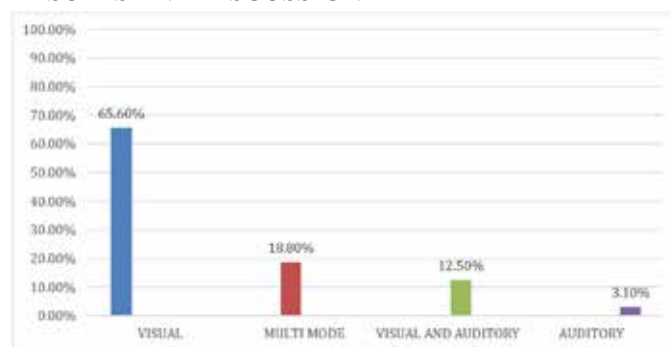
The sample for this study was college students (from science, commerce or arts stream) between the ages 18-25 currently undergoing their Undergraduate (UG) or Post Graduate (PG) programme in Mahatma Gandhi University (MGU), Kerala. This sample was collected using convenience sampling. A consent form was given to the participants which was to be duly filled. Later the students were asked to fill socio demographic details and Barsch Learning Styles Inventory (BLSI) (Barsch R.J., 1996). To understand preferred teaching style, the students

were asked to rank different styles of teaching like- visual teaching style, auditory teaching style and tactile/kinesthetic teaching style in the order of their preference. This data was collected using google forms and printed questionnaire. Incomplete data and wrongly filled data was excluded. The data was analysed using SPSS software. Descriptive and inferential statistical procedures were used to get the results.

### Ethical Considerations

The informed consent of the participant was taken. Anonymity and confidentiality are maintained. No monetary benefits were provided to the participants.

### RESULTS AND DISCUSSION



**Figure 1: Percentage of overall preference of students in terms of learning style**

Figure 1 shows the overall preferences of students in terms of learning style. The most preferred learning style is 'Visual' followed by multimode, visual and auditory. The least preferred type is 'auditory'.

Variable		Multimode	Visual & Auditory	Visual	Auditory	$\chi^2$	df	p-value
Gender	Male	14.3%	7.1%	78.6%	0%	2.249	3	.522
	Female	22.2%	16.7%	55.6%	5.6%			
Educational level	UG	15.4%	15.4%	69.2%	0%	1.006	3	.800
	PG	21.1%	10.5%	63.2%	5.3%			

**Table 1: Chi - square test showing gender and educational level of the students for different learning styles**

Table 1 indicates the Chi-square test showing gender and educational level of the students for different learning styles. Learning styles refer to the process by which an individual makes an attempt to imbibe, understand, store and retain various information that the individual has gained from various sources across span of time. The current study conducted among 32 college students can be bifurcated to 14 males and 18 females. From the 14 male participants, about 78.6% preferred visual mode, 14.3% multimode, 7.1% preferred both visual & auditory, and 0% preferred auditory learning style. Out of the 18 female participants, 55.6% preferred visual learning style, 22.2% multimode, 16.7 % preferred both visual & auditory and 5.6% preferred auditory learning style. The Chi-square value is 2.249 with degree of freedom as 3. The p-value is 0.522.

The preceding findings unequivocally demonstrate that the p-value is greater than 0.05 and hence the null hypothesis was accepted. This means that 'there exists no significant gender difference pertaining to preference in learning style among college students.' While the results concur with the findings of Shah et al., (2013) which revealed 'no significant gender differences in learning style preferences'; it is contrary to the findings of Wehrwein et al., (2007) and Kulturel-Konak et al., (2011) which revealed a noteworthy distinction in learning styles between males and females. In the current study, both males and females show high preference for visual learning style and least preference for auditory learning style. The similar preference for visual learning style was found in the study by Dewi et al., (2019).

On analysing table 1 it is clear that, out of the sample encompassing 13 undergraduate and 19 post graduate students; 69.2% of undergraduate students preferred visual learning style, followed by 15.4% expressing an equal preference for both multimode and visual & auditory learning styles and almost none preferring auditory mode. In case of postgraduate students, 63.2% preferred visual, 21.2% multimode, 10.5% for visual & auditory mode and 5.3% for auditory learning style. The Chi square value is 1.006 with 3 as degree of freedom and p-value 0.800.

The result shows that the p-value is greater than 0.05. Hence the null hypothesis 'there is no significant difference based on level of education pertaining to preference in learning style among college students' was accepted.

Teaching style	Percentage
Visual > Auditory > Tactile	50%
Auditory > Visual > Tactile	18.75%
Visual > Auditory > Tactile	18.75%
Tactile > Auditory > Visual	9.38%
Tactile > Visual > Auditory	3.13%

**Table 2: Percentage of teaching style in the order of preference by college students**

Table 2 shows the percentage of teaching style in the order of preference by college students. Students who prefer the 'visual teaching style' prefers the teachers to use visual aids like charts, diagrams, power point, 3D images, videos etc to improve their leaning process. Visual learners use imagery to think, recalling information through a mental "picture screen" that is akin to reliving movie scenes. Individuals with a preference for auditory teaching style expects the teacher to enhance auditory stimulation of the students to better grasp ideas and concepts. This means students who absorb ideas via auditory sense prefers discussions and verbalisation of ideas. Auditory learners use listening and repeating aloud to filter information, as opposed to visual learners who form mental images. They are very good at using language to solve problems and tell stories. Students incline towards tactile style of teaching prefers the teacher to enhance the use of touch or movement in learning.

This means they prefer to physically touch and feel the subject matter or they prefer to experience real time application of the theory. They find it easy to improve their comprehension by taking notes again and again, formulating questions based on key concepts, and making an effort to remember the answers. Notecards are a tactile organizational tool that help with self-assessment and practical application of the material. These students prefer to take notes while using a writing instrument, adding illustrations and diagrams.

About half of the sample has expressed preference for visual teaching style followed by auditory and tactile teaching styles. 18.75% of the sample exhibits priority for auditory teaching style followed by visual and tactile. Exact same percentage has preferred visual teaching style followed by auditory and tactile teaching styles. while 9.38% favours the ranking tactile teaching style followed by auditory and visual teaching styles; only 3.13% prefers tactile teaching style followed by visual and auditory teaching style in the subsequent order of preference. This means most people prefer teachers to teach using visual aids followed by auditory and hearing aids and tactile aids

#### Future directions and limitations

The study was conducted in a small sample of 32 students and was restricted to Mahatma Gandhi University, Kerala. Also, convenience sampling was used in this study. Considering these limitations, the researcher gives suggestions to conduct the research on a larger sample size using qualitative or mixed method. Also, variables affecting learning and teaching styles could be studied. Knowing about the same can make NEP 2020 improvise a more student-oriented curriculum.

#### CONCLUSION

The study reveals that visual mode is the most preferred learning style among students followed by multimode, visual & auditory, and auditory. Notably, preferences for learning styles among college students did not differ based on gender or educational attainment. Furthermore, it was found that students preferred teaching style in the order-visual followed by auditory and tactile. In conclusion, students lean towards visual learning and teaching styles.

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